Accessing IPCC data from VCDAT

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Goal: To learn about OPeNDAP access from VCDAT.

New CDAT v4.1 enables <u>OPeNDAP</u> interface to the <u>IPCC ESG</u> climate model simulations data holdings. The OPeNDAP server enables to authenticate the user access, list files and subdirectories, display metadata information, allow user to browse and download the chosen data directly into the VCDAT for analysis.

<u>OPeNDAP</u> is a software framework that allows access to remote scientific datasets. The core of OPeNDAP is a specification of an http-based protocol that describes how clients and servers should communicate data over the network. There are a variety of clients and servers available that understand DAP; an adaptation of the <u>PyDAP</u> server is being used for the IPCC AR4 model output database.

The server provides access to IPCC datasets. A dataset is an aggregation of a set of related data files into a single virtual file. In general, a dataset consists of all data variables for a given combination of model, scenario, experimental run, temporal frequency, and submodel (ocean or atmosphere). A dataset is represented by a <u>CDMS XML</u> file.

Be aware that there is a definite overhead to accessing data through the OPeNDAP server. Network speed, HTTP protocol, and server delays combine to limit access speed in comparison to direct disk reads.

You can access the IPCC AR4 data in a variety of ways:

- from VCDAT
- from CDMS
- through the web browser

To access the IPCC data from VCDAT click on the 'Portal Internet Manager' Button as shown in the image below (click on the image to see the bigger picture)

This will open a new window with the data holdings directory. For your convenience the IPCC AR4 data portal catalog has been selected. In the future, more portal catalogs will be added.

Click on the 'PyDAP server' tab (+) to open it

When you further click on the choosen model run, first you will be presented with the password authentication window, and after entering the username and password to the IPCC AR4 data holdings, you will see the metadata for the choosen dataset appear in the right window.

Click on the 'Open File' or 'Open File and Exit' buttons at the bottom of the window to import the data into the VCDAT. From there on, you can select the variable in the VCDAT in the usual way and plot it.

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To learn how to access the IPCC data from CDMS module and from the web browser	see]	<u>IPCC</u>	<u>OPeN</u>	<u>DAP</u>
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